

ABSTRACT

A microcontroller has a memory storing a program with an instruction that causes the microcontroller's central processing unit to enter a standby mode, in which data output from the memory is halted. The standby mode is exited by input of an interrupt. The microcontroller also has a control circuit that, by storing the next few program instructions internally before placing the memory in standby, or by delaying the interrupt signal, provides extra time for memory operation to stabilize on exit from the standby mode. Malfunctions on recovery from standby are thereby prevented, and the microcontroller can conserve power by placing the memory in a deep standby mode with a comparatively long recovery time.